

DOCUMENT RESUME

ED 288 095

CE 049 112

AUTHOR Palmieri, D. Frank; Vecchiola, Leonard C.
TITLE Entrepreneurship Competencies for Vocational Curriculum Development. Instructor's Handbook. Final Report.
INSTITUTION Pittsburgh Univ., Pa. School of Education.
SPONS AGENCY Pennsylvania State Dept. of Education, Harrisburg. Bureau of Vocational and Adult Education.
PUB DATE 30 Jun 87
CONTRACT 85-7042
NOTE 47p.
PUB TYPE Guides - Classroom Use - Guides (For Teachers) (052)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Agricultural Education; Allied Health Occupations Education; *Business Education; *Curriculum Development; *Entrepreneurship; *Fused Curriculum; Instructional Materials; Models; Occupational Home Economics; Office Occupations Education; *Program Content; Secondary Education; State Surveys; Technical Education; Trade and Industrial Education; *Vocational Education
IDENTIFIERS Pennsylvania

ABSTRACT

This handbook is intended to assist vocational teachers and administrators in preparing vocational curricula that include materials for developing teacher- and business-identified entrepreneurship competencies. The handbook begins with a discussion of the need to infuse entrepreneurship education into all areas of vocational education. The next section examines related literature and entrepreneurship education materials, including the National Center for Research in Vocational Education's model for lifelong entrepreneurship education and the Program for Acquiring Competencies in Entrepreneurship (PACE). Described next are the procedures used in the survey of 590 Pennsylvania area vocational-technical school instructors and 60 small business owners and managers from Allegheny County, Pennsylvania, that was conducted to identify the entrepreneurship competencies needed by students in the individual vocational education curriculum areas. The next two sections analyze the survey results and suggest various curriculum materials and procedures that can be used to infuse instruction in the competencies identified into existing vocational courses. Appendixes include the U.S. Department of Education policy statement on entrepreneurship education; an entrepreneurship education model; and a breakdown of survey responses according to the following vocational education subject areas: agriculture/horticulture, air conditioning/environment, appliance repair, automotive/heavy equipment, building/construction trades, business/computers, creative and graphic arts/design, cosmetology, electronics, food preparation, health occupations, machine shop/tool and die making, marketing and distribution, and welding. (MN)

INSTRUCTOR'S HANDBOOK

**ENTREPRENEURSHIP COMPETENCIES
FOR VOCATIONAL CURRICULUM DEVELOPMENT**

Prepared by

**The University of Pittsburgh
School of Education
Department of Instruction and Learning**

**Dr. D. Frank Palmieri, Project Director
Mr. Leonard C. Vecchiola, Project Coordinator**

**For a Project Funded by the
Pennsylvania Department of Education
Bureau of Vocational and Adult Education
Harrisburg, Pennsylvania 17126
July 1, 1986 to June 20, 1987
Project No. 85-7042**

June 30, 1987

ACKNOWLEDGEMENTS

Committee of Consultants to the Project

Dr. Irvin H. Iwler, Professor Emeritus, Marketing Education, University of Pittsburgh

Mr. Paul Pugh, Retired Marketing Consultant, Pennsylvania Department of Education

Mr. Joseph Poerio, Supervisor, Marketing and Business Education, Pittsburgh Public Schools

Mr. John Debbis, Carpentry Instructor, Parkway West AVTS

Mr. Glenn Reis, Machine Shop Instructor, A. W. Beattie AVTS and Parkway West, AVTS

Mr. Carl Hoburg, Computer Specialist, University of Pittsburgh

A special thanks for the time, effort, encouragement and especially their expertise in advising the project director and coordinator.

TABLE OF CONTENTS

	Page
Introduction to the Study.....	1
Rationale for the Study.....	3
Related Literature.....	5
Endnotes.....	7
Problem and Objectives of the Study.....	8
Procedure of the Study.....	9
Data Analysis and Findings.....	10
Conclusions and Recommendations.....	15
Appendices	
Resources	

INTRODUCTION TO THE STUDY

Entrepreneurship education is becoming important as small businesses are becoming socially and politically popular in the face of change from an "industrial society" to an "information society." This shift is in its infancy, however, showing great potential for change. It implies the movement from large industry that employs great numbers of workers to an opportunity for many small businesses that specialize in communications and services. Unemployment as we have seen in Pennsylvania causes people to become self-employed with odd jobs and in many cases to start up small businesses.

The opportunity for small business growth represents a renaissance among Americans of self-confidence, resourcefulness, and risk taking. In discussing entrepreneurial characteristics, Shapero explains that entrepreneurs can be developed--

Entrepreneurs are not born, they become... The characteristics that have been found to denote the entrepreneurs from others are not genetically determined or fixed forever in one's earliest years. They are attained through experience. They are hopefully nurtured through education, and they are amendable to personal choice and decision. We humans have the unique capacity to decide, to choose many of the experiences that determine who we will be.¹

But merely starting a creative new business is not all that is necessary for U.S. economic growth. As the 1980 White House Conference on Small Business showed, the men and women who own and operate small businesses in this country are hurt by a mounting barrier of economic ills. High taxes and interest rates hurt small businesses most because they often do not have the resources available that their larger counterparts can use. And they are particularly concerned by the lack of preparation for small business ownership and management in the public education systems where

large numbers of people could receive training.

Support for entrepreneurship education and small business training is seen as an essential ingredient to encourage real business success and growth. Figures indicate that a great number of businesses fail within the first five years... just how many is a subject of controversy. Shapero, (1980) suggests that bankruptcies are only a small part of those going out of business. Many just pay their bills and close their doors. Others sell out and move on to start another business. Some businesses close because their owners reach retirement age and have no one to turn the company over to. And some shut down because they become bored.

"Business failure isn't really a loss. The resources, human and material, are still there, although they have been redistributed. What people learn from business failure may even be a gain for society. The more people who try to start new businesses, whether they succeed or not, the better off we will all be. We need a better understanding of the need for startups and the real reasons for "failures" so that people, particularly the young, aren't discouraged before they get a change to start."²

The United States Department of Education, issued a policy statement on entrepreneurship education on September 20, 1983. For purposes of the policy statement, an entrepreneur is defined as an individual who undertakes self-directed initiatives and assumes personal risk in creating and operating a profit-oriented business. The policy statement further shows that entrepreneurship education takes many forms depending on the client group served: (1) Young people in school who are considering small business ownership as a career option, and therefore, considered future entrepreneurs; (2) Persons ready to become self-employed; (3) Those currently operating a small business; (4) Those who work with or will be associated with the small business sector. The U.S. Department of Education recognizes the achievement in vocational education which, in various ways,

have brought the entrepreneurial experiences to some students through assisting small business owners. These achievements provide a foundation for greater clarity of the role of vocational education in bringing entrepreneurship education within the mainstream of education. It is the policy of the U.S. Department of Education to encourage the inclusion of entrepreneurship competencies as an integral part of vocational education and to support all endeavors which serve to increase the capacity of vocational education to deliver education for entrepreneurship. The U.S. Department of Education Policy Statement on Entrepreneurship Education is included in Appendix 1.

RATIONALE OF THE STUDY

The next decade is expected to bring great changes in the American economy based on the development of high technology and the growth of new small business. Why the entrepreneurship emphasis?

- . Currently there are approximately 16.3 million small U.S. businesses not including the single employee operations of which there are probably another 7.1 million. (SBA)
- . Small businesses have provided most of the 20+ million new jobs between 1970 and 1980. (Drucker)
- . Since 1980, Fortune 500 companies have lost 3,000,000 jobs while businesses less than ten years old have added at least 750,000 new jobs and more than 1 million new employees. (Drucker)
- . Small businesses incomes during 1983 increased 18% over the past year, while wage and salary expense rose only 6.1%. (SBA)
- . Business failures, most of which occur in small businesses, declined 10.5% during 1983. (SBA) However, 1985 figures show a

total of 57,067 failures which was 9.6% greater than 1984. (Dun & Bradstreet Corp.)

- . In 1981 and 1982, small independent firms create 2,650,000 new jobs, more than compensating for the 1,664,000 jobs lost by large industry. (SBA)
- . More than half of the new jobs created in 1981 and 1982 were in the service sector. (SBA)
- . Small businesses furnish two-thirds of the jobs for new workers. Many of these are in the services sector, the traditional doorway to the job market for the young, minority and unskilled job seekers. (SBA), 1984).
- . Women-owned businesses are growing at an all-time high. In 1983,
- . 2.8 million sole-proprietorships were owned by women (4 times the number in 1977). Including partnerships and corporations the number exceeds 3.7 million, or 25% of all small business.
- . A larger percentage of small businesses (estimate 30-50%) are started by people with only a high school degree or less. (NFIB, Rutgers)
- . The areas of greatest job growth in this country are closely identified with traditional vocational education occupation training. (Bureau of Labor Statistics)
- . Small businesses employ 48% of the private workforce. (SBA)
- . Ninety percent of the small businesses in the U.S. employ fewer than 10 people. (SBA)
- . Six hundred thousand business corporations occurred in 1983--20,000 more than the previous record established in 1981. (SBA)

RELATED LITERATURE

In keeping with the theory of entrepreneurship as a developmental process, The National Center for Research in Vocational Education's project staff developed a model for life-long entrepreneurship education that focuses on a sequential order for the development of basic knowledge and skills.³ This model is designed to illustrate the fact that entrepreneurship is developed over an extended period of an entrepreneur's life and does not place in any one setting or at one specific time. The stages include: (1) Economic Literacy/Basic Skills/Career Awareness, (2) Entrepreneurship Interest and Awareness, (3) Technical and Business Skills Development, (4) Entrepreneurship Venture Development, (5) Long-term Expansion/Redirection.⁴ The model is included in Appendix 2. This lifelong learning model is an attempt to define the differences one would expect to see in different types of entrepreneurship training programs. It also indicates the importance of defining a number of important needs and learning processes before infusing entrepreneurship into an educational program. It is important that entrepreneurship education be developed and incorporated in the curriculum as a distinct but integral part of all vocational education program areas. A Program for Acquiring Competencies in Entrepreneurship (PACE) represents a resource to initiate further action in this direction. This comprehensive entrepreneurship curriculum was originally developed by the National Center for Research in Vocational Education in 1977. Another resource available from the National Center produced in 1985 is called "Beyond a Dream."⁵ The materials carry a student from the idea stage through a feasibility study in order to determine business start-up possibility. The "Beyond a Dream" materials make

references to the PACE competencies and they are designed to be used together. A resource available from Indiana University of Pennsylvania, Center for Vocational Personnel Preparation is titled "Entrepreneurship, A New Direction for Education."⁶ This curriculum material was presented at a workshop for teachers this year and was very favorably received. It has many curriculum suggestions and student learning experiences for entrepreneurship. This curriculum can also be used with the PACE Materials and Beyond a Dream for curriculum inclusion decisions.

In an article entitled "Entrepreneurship Education Makes Sense" by Catherine Ashmore as reported in the October, 1986 Issue of the Vocational Education Journal, justification is shown for teaching entrepreneurship in the secondary Vocational Education program. She said, "Entrepreneurship Education is a gradual lifelong process that can and should begin as early as elementary school - certainly by high school."⁷ Around the country entrepreneurship programs are starting up. Nebraska reported building an entrepreneurship program stating that job creation is top priority because of the State's poor economic conditions.⁸ Milwaukee, Jauneau Business High School, reported starting an entrepreneurship training program which actually helps students start businesses in their junior year.⁹ Fargo South High School, Fargo, North Dakota, reported that during the summer of 1981 and 1982, 25 North Dakota secondary and postsecondary MDE teachers were prepared and certified to be Small Business Administration (SBA) counselors. This was a cooperative effort of the University of Dakota and the SBA Management Assistance Office.¹⁰ McClellan High School, Little Rock, Arkansas reported that an entrepreneurship program was developed during the 1982-83 school year. They called the class "Junior Executive Training."¹¹

The City of Pittsburgh, South Vocational Technical High School started an Entrepreneurship Program for the 1986-87 school year. Students are trained to operate a concession stand at South Stadium.

Virginia's James Madison University has established a Center for Entrepreneurship and the W. L. Moody Professorship of Entrepreneurship.¹² The center is supported in part by an endowment by Zane D. Showher, who founded HFP SYSCO Food Services and an annual grant from Mary Moody Northern Foundation. The program includes an Association of Collegiate Entrepreneurs (ACE) Chapter. The Wichita State University, Kansas, reported that Tom Devlin, Rent-A-Center board chairman, has committed \$1 million of a \$5 million grant for construction of a new Center for Entrepreneurship building because he exemplifies extraordinary entrepreneurial success.¹³ Two of the program's graduates, brothers, started the Pizza Hut franchise.

ENDNOTES

1Shapero, A. "Have You Got What It Takes to Start Your Own Business?", Savvy, April 1980, p. 83-88.

2Ibid.

3Unpublished paper, M. Catherine Ashmore, Ph.D., The National Center for Research in Vocational Education, The Ohio State University, Ohio.

4Ibid.

5"Beyond a Dream", National Center For Research in Vocational Education, Columbus, Ohio, 1985.

6"Entrepreneurship, A New Direction For Education." Center for Vocational Personnel Preparation, Indiana University of Pennsylvania, 1987.

7"Entrepreneurship Education Makes Sense.", M. Catherine Ashmore, Vocational Education Journal, Vol. 61, No. 7, October, 1986.

8Research in Progress, "Nebraska Builds Entrepreneurship Program." Centergram, National Center for Vocational Education, Vol. XXI, No. 11, November, 1986.

- 10 U.S. Office of Education, MDE Report, Ed Nelson. April, 1985.
- 11 "Teaching Entrepreneurship: Instructional Resources and Strategies", Tips, Delta Pi Epsilon, Vol. 2, No. 1, Fall, 1986.
- 12 "James Madison University Commits to Entrepreneurship", The Journal of Private Enterprise, Vol. 11, Winter, 1987.
- 13 "Devilins Commit \$5 Million to Wichita State", Horizon Publication, Wichita State University, Spring, 1977.

PROBLEM AND OBJECTIVE AND STUDY

The problem centers around the implementation of entrepreneurship competencies in the Vocational Education curriculum. These identified competencies were reviewed in light of their recommended adoption in the curriculum of various vocational programs. With implementation information the vocational instructors are encouraged to adopt and utilize parts of the PACE Materials and other available materials in their curriculum concerning entrepreneurship.

This curriculum development project addressed Title II, Part B of the Perkins Vocational Education Act of 1984, to develop and implement new curriculum materials to address unmet needs. The following State Priorities were also addressed:

- a. to develop competency-based vocational education (CBVE) curriculum material to address unmet needs.
- b. to develop curriculum material which can be used to teach entrepreneurship at the secondary and postsecondary levels.

The overall objective of this study is to develop and print this instructors' handbook for the implementation of entrepreneurship competencies in the Vocational Curriculum. The entrepreneurship instructors' handbook is designed to assist and encourage all vocational instructors and administrators to include entrepreneurship competencies in

their vocational program curriculum.

PROCEDURE OF THE STUDY

The action plan necessary to develop an instructors' handbook for the implementation of entrepreneurship materials in the curriculum of vocational education programs are listed as follows:

1. Identify and list competencies in entrepreneurship appropriate to all vocational curriculum areas.
2. Identify PACE curriculum materials for vocational program including units and skills to be taught, objectives and student activities, handouts to students, transparency masters for large group instruction and resources for additional materials on specific occupations.
3. Meet with consultants, vocational teachers and administrators, collecting appropriate data concerning needs.
4. Develop and print an instructional manual containing materials relevant to the competencies.

Two survey forms using PACE identified competencies and other pertinent questions were developed, one for AVTS instructors and one for business owners (See Appendix 3 and 4). The knowledge that most instructors and business persons are usually under some time constraints and are reluctant to answer surveys of any type was a determinant in the design of the survey form. A simple yes or no answer along with a short answer essay question was helpful in obtaining the necessary information regarding entrepreneurship in the classroom and business.

The survey forms were distributed to all Area Vocational Technical schools in Pennsylvania and to selected businesses listed in the Greater Pittsburgh, Bell of Pennsylvania Yellow Pages. Businesses were selected according to their relationship by trade to existing school programs. Every tenth business was selected to be a participant in the survey.

To validate the survey forms and the method of distribution, a group of

consultants including the project director and coordinator was convened. In this group there were two vocational instructors and several others who presently own or had previously owned a business. It was determined at the meeting that two pilot surveys should be conducted to eliminate any inconsistencies prior to final design. It was also suggested that a letter be sent to the directors of all the schools to be surveyed indicating the method of distribution. A faculty meeting was considered to be the best time for teachers to complete the survey form. It was further suggested that return postage envelopes be enclosed for both surveys as an inducement for a quicker return. The surveys directed to businesses were sent without a pilot study because the consultants felt it was not necessary, but added that there should be some sort of code to identify respondents. The responses from instructors were identified by program.

It should be noted at this time, that the coding worked especially well with the businesses since many of the respondents either neglected or omitted writing the type of business on the survey.

The pilot schools' surveys showed a definite consistency in answers, and at a second meeting of the consultants it was decided to distribute a revised survey form. At a final meeting of the consultants the data collected from the returned surveys, both schools and businesses were analyzed and suggestions made for inclusion in the Instructors' Handbook.

DATA ANALYSIS AND FINDINGS

The Entrepreneurship study surveyed Area Vocational Technical School (AVTS) instructors in Pennsylvania and also surveyed small business owners/managers in Allegheny County. The survey process produced 590 responses from the AVTS's and 60 responses from the small businesses. The

AVTS instructors and the small business owners/managers were asked their opinion concerning 18 entrepreneurship competency areas validated by PACE as to their importance to teach. Seventy-seven point seven percent of the instructors thought that the competencies were important to teach. To the question about if these competencies are included in their curriculum, 71.9% said no they are not included. When the small business owners/managers were asked their opinion about the importance of teaching entrepreneurship competencies to secondary students, 87.8% said yes which shows a higher percentage than the instructor's responses. Both AVTS instructors and small business owners/managers agree that entrepreneurship competencies should be taught to secondary vocational students. The totals of the survey data of the AVTS instructors can be found in Appendix 3 and the business owners in Appendix 4.

Instructors and business owners do not agree, however, upon which entrepreneurship competencies are the most important to teach as shown in Tables I and II ranking the top six competencies as reported by the instructors and the business owners.

TABLE I
RANK ORDER OF ENTREPRENEURSHIP COMPETENCIES IMPORTANT
TO TEACH AS REPORTED BY INSTRUCTORS

Rank Order	Percent Response	PACE No. and Competency
1	86.1%	1. Understanding the Nature of Small Businesses
2	85.5%	10. Comply with Government Regulations
3	84.6%	15. Keep the Business Records
4	84.3%	11. Manage the Business
5	82.6%	4. Obtain Technical Assistance
6	80.7%	16. Managing the Finances

TABLE II
RANK ORDER OF ENTREPRENEURSHIP COMPETENCIES IMPORTANT
TO TEACH AS REPORTED BY BUSINESSES

Rank Order	Percent Response	PACE No. and Competency
1	96.7%	11. Manage the Business
2	95.0%	16. Managing the Finances
3	93.3%	7. Locating the Business
4	93.3%	17. Managing Customer Credit and Collections
5	93.3%	18. Protecting the Business
6	91.7%	8. Financing the Business

The instructors (86.1%) reported as shown in Table I, that PACE competency #1. Understanding the Nature of Small Business is most important to teach. The Business Owners (96.7%) reported as shown in Table II that PACE competency #11. Managing the Business is the most important to teach. There appears to be a difference in the opinion of the two groups on the importance of entrepreneurship competencies to be taught which should be noted. The opinion of the business owners seems to be stronger with a 96.7% response than the opinion of the teachers with an 86.1% response.

AVTS instructors were asked to report the number of years of related work experience they had. The work experience level of vocational teachers is quite high at the 5-9 years range 22.0% and at the 20 or more year range 28.1%. Refer to Table III for details.

Table III shows that the AVTs instructors have a high level of work experience related to the vocational subjects they teach.

AVTS instructors were also asked to report the years of teaching experience they had. Table IV reports the instructors responses.

TABLE III
YEARS OF RELATED WORK EXPERIENCE REPORTED
BY AVTS INSTRUCTORS

Range of Years	Number of Responses	Percent of Responses
1 - 4	65	11.0%
5 - 9	130	22.0%
10 - 14	108	18.3%
15 - 19	85	14.4%
20 or more	166	28.1%
No Responses	36	6.1%

Observing a profile of the AVTS instructor we have seen in Table III that they have a large amount of related work experience. Table IV shows that Pennsylvania AVTS instructors have large numbers of years of teaching experiences. With this profile in mind the instructors were asked if they now or in the past owned or operated a business. The response to this question was that 62.2% of the instructors said yes, they did own or operate

TABLE IV
YEARS OF TEACHING EXPERIENCE OF AVTS INSTRUCTORS

Range of Years	Number of Responses	Percent of Responses
1 - 3	67	11.4%
4 - 6	70	11.9%
7 - 10	102	17.3%
11 - 14	99	26.8%
15 or More	250	42.2%
No Responses	2	.3%

a business. Now our instructor profile shows that they reported high on related work experience, vocational teaching experience and they owned their own business. This profile seems to be a very positive background for

teaching entrepreneurship competencies in their vocational programs.

The personal thinking of the instructors about entrepreneurship competency instruction was surveyed. In this area the question was "Do you ever get requests from your students for information on how to start a small business in your program area?" The data collected shows that 48.5% of the students requested information. This figure of 48.5% student requests for information can be compared to the previously reported data which shows that only 28.1% of the instructors are including entrepreneurship competencies in their curriculum. Another survey question asked, "With the appropriate curriculum materials would you be willing to include entrepreneurship instruction as an integral part of your program?" The data collected shows that 75.6% said yes that they would be willing to teach the entrepreneurship competencies in their vocational programs. Then the instructors were asked about how many hours per week of entrepreneurship instruction they would include in their curriculum. The highest response was one (1) hour per week 43.1%. The complete data on this question is shown in Table V.

TABLE V
HOW MANY HOURS PER WEEK OF ENTREPRENEURSHIP INSTRUCTION
WOULD YOU INCLUDE IN YOUR CURRICULUM

Hours Per Week	Number of Responses	Percent of Responses
1	254	43.1%
2	130	22.0%
3	60	10.2%
4	23	3.9%
5 or More	43	7.3%
No Responses	80	13.6%

AVTS instructors, on the whole are willing to teach entrepreneurship competencies in their vocational curriculum for at least one hour per week

and possibly for two hours. The no response category of 13.6% possibly indicatesthat there are a number of instructors who are undecided or not willing to teach any entrepreneurship competencies.

The findings of the study in summary show a very positive response from Pennsylvania AVTS instructors toward their willingness to add entrepreneurship competencies to their curriculum. The data shows that the instructors rated high in related work experience, teaching experience, and owning their own business. They are willing to include entrepreneurship competencies in their curriculum for at least one possibly two hours per week and in some cosmetology courses and the Marketing Education Program, 5 or more hours per week. Positive remarks concerning the instructors willingness and awareness of the entrepreneurship competency concerns can be concluded from the data.

CONCLUSIONS AND RECOMMENDATIONS

In the interpretation of the findings of this study limitations should be noted. The survey included only vocational teachers in Pennsylvania Area Vocational Technical Schools and not comprehensive high schools. The survey of business owners included only those businesses in Allegheny County since the selection of businesses in the various program areas came from the Greater Pittsburgh Bell Telephone Yellow Pages.

The purpose of this study and instructors' handbook is to assist and encourage vocational instructors and administrators to include entrepreneurship competencies in their program curriculum. The findings of the study show a willingness among the AVTS instructors to revise their curriculum to include entrepreneurship and to teach the competencies to their students. Business owners highly recommend that entrepreneurship

competencies be taught in Area Vocational Technical Schools. A recommendation is therefore made that Pennsylvania AVTS instructors and administrators review current vocational program curriculum to add entrepreneurship competencies. It is also recommended that administrators submit curriculum utilization proposals to the Pennsylvania Department of Education for special funding to assist the vocational instructors with curriculum changes.

From the findings of the study we can conclude that the AVTS instructor were capable to teach entrepreneurship competencies because their profile shows high ratings on work experience and teaching experience, that they owned their own small business, and that they are willing to teach entrepreneurship competencies in their vocational programs. Recommendation is made that approximately two hours per week be devoted by the program instructor to teaching entrepreneurship competencies in appropriate vocational programs where self employment of graduates is occurring. In other programs such as Marketing Education a much greater number of hours would be necessary.

A recommendation is also made that the AVTS, provide on an optional basis, additional entrepreneurship courses for those vocational students who are advanced in their trade and are recommended by their instructors. Marketing Education instructors have the expertise and could provide leadership in program planning.

From the data of the study a conclusion can be drawn that the AVTS instructors would be willing to include entrepreneurship instruction as an integral part of their program if appropriate curriculum materials were provided. A recommendation, is therefore, made that vocational instructors

be provided with the "PACE" materials from the National Center for Research in Vocational Education. That optional curriculum material be purchased such as "Beyond a Dream" from the same source, "Entrepreneurship, A New Direction for Education" from Indiana University of Pennsylvania and a number of fine resource materials from various States, National Associations, magazines, and other materials found in the resource section of this handbook. An extensive list of available curriculum material is part of the "PACE Resource Guide" which is included in the PACE materials. A recommendation is made that instructors look at the Entrepreneurship Competency Survey list as it relates to individual vocational program areas. The importance of each competency listed may vary according to individual program needs. Instructors may wish to select the higher rated competencies as important to teach for curriculum adjustment.

The competencies as listed by programs can be found in the appendix area of the handbook. Refer to the appendix list for the page number as it relates to the specific vocational program areas.

It is further recommended that vocational instructors teach entrepreneurship competencies as a related or integral part of their present curriculum not as completely separate units or courses. For example, when adjusting the curriculum unit on "estimating a job" the unit and then lesson planning should reflect in addition to your present material suggested competencies in the PACE material as follows:

Suggested PACE Units for "Estimating a Job."

1. Level 2, Unit 2, Page 6, Desire for Profit.
2. Level 2, Unit 2, Page 11, Prices you Charge.
3. Level 2, Unit 6, Page 13, Markup and Pricing Goals.

4. Level 2, Unit 6, Page 14, Channels of Distribution.
5. Level 2, Unit 6, Page 18, Pricing Decisions.
6. Level 2, Unit 9, Page 3, Legal Issues Affecting Pricing.

The instructors would already have available for students related materials including price lists, special estimating formulas for the specific trade, conversion factors, sample materials check sheets for various jobs, job estimating sheets, supply and demand information for a local area, suggested tools and equipment depreciation factors, etc. The difference in teaching entrepreneurship now changes from the student being a fine employee looking for promotion within the company to pricing a job as an employer for profit after expenses, for survival of the business.

A final recommendation centers around entrepreneurship as a student career goal with placement accountability and using the revised curriculum to provide new challenges and new motivations for students. Instructors will need to develop great enthusiasm for entrepreneurship and allow the enthusiasm to transfer to students.

APPENDICES

1. United States Department of Education Policy Statement
2. Entrepreneurship Education Model
3. Survey - Total of Programs
4. Survey - Total of Businesses
5. Survey - Agriculture/Horticulture
6. Survey - Air Conditioning/Environmental Related
7. Survey - Appliance Repairs
8. Survey - Automotive/Heavy Equipment Related
9. Survey - Building/Construction Trades Related
10. Survey - Business Education/Computer Related
11. Survey - Creative and Graphic Arts/Design Related
12. Survey - Cosmetology
13. Survey - Electronics
14. Survey - Food Preparation/Service
15. Survey - Health Related Occupations
16. Survey - Machine Shop/Tool and Die Related
17. Survey - Marketing and Distribution Related
18. Survey - Welding

UNITED STATES DEPARTMENT OF EDUCATION

POLICY STATEMENT

Entrepreneurship Education

The U.S. Department of Education recognizes the vital role small business plays in our economy. Today, there are approximately 14 million small businesses of which a major portion are one-person or family-owned enterprises. Small businesses which employ one or more persons generate most of the new jobs in the economy. It is well recognized that entrepreneurial activity contributes significantly to economic development and, for many people, provides self-employment satisfactions.

The U.S. Department of Education recognizes the achievements in vocational education which, in various ways, have brought the entrepreneurial experience to many of our youth and have assisted small business owners to initiate, develop, and maintain their business ventures. These achievements provide a foundation for greater clarity of the role of vocational and adult education in bringing entrepreneurship education within the mainstream of education.

Entrepreneurship education takes many forms, depending upon the client group served: (1) young people in school who are considering small business ownership as a career option, and therefore, considered future entrepreneurs; (2) persons who are potential entrepreneurs and are ready to become self-employed; (3) those who are currently operating a small business; and (4) those whose work is or will be associated with the small business sector. For purposes of this policy statement, an entrepreneur is defined as an individual who undertakes self-directed initiatives and assumes personal risks in creating and operating a profit-oriented business.

The scope of entrepreneurship education is essentially multidisciplinary, beginning with the expectation that business owners must be well versed in the basic academic skills. Most of the self-employed base their enterprises around a particular occupational skill, which is often acquired through a vocational education curriculum. Traditional small business management concepts and practices are important components of entrepreneurship education. The development of personal characteristics and the encouragement of entrepreneurial traits are also key elements. It is apparent, then, that entrepreneurship education is delivered through infusion into existing courses and programs as well as separate specialized offerings.

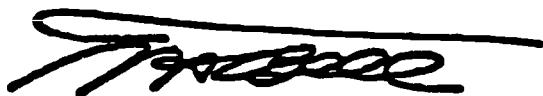
It is the policy of the U.S. Department of Education to encourage the inclusion of entrepreneurship as an integral part of vocational and adult education and to support all endeavors which serve to increase the capacity of vocational and adult education to deliver education for entrepreneurship.

BEST COPY AVAILABLE

In keeping with this policy, the Office of Vocational and Adult Education will:

1. Give leadership to the development of entrepreneurship education.
2. Encourage the infusion of entrepreneurship concepts, essentially for career consideration, into all instructional programs in vocational and adult education.
3. Advocate the expansion of instructional programs specifically for entrepreneurship, especially at the postsecondary and adult levels of education.
4. Collaborate and cooperate with national associations and federal agencies concerned with the small business environment, including those which provide special assistance to women and minorities.
5. Identify and disseminate information about exemplary practices in entrepreneurship education.
6. Provide the States with suggested strategies for the promotion and implementation of entrepreneurship education.
7. Advocate the concept that the potential for entrepreneurial success is not limited by reason of age, sex, race, handicapping condition, or place of residence, and give special attention to those underrepresented in entrepreneurial fields; namely, women and minorities.
8. Maintain a communications network with various audiences in the public and private sectors in order to advance entrepreneurship education at State and local levels.
9. Document the scope of activities and achievements in entrepreneurship education.

In making entrepreneurship education a focus of concern for vocational and adult education, the U.S. Department of Education believes that the quality and contributions of private enterprise will be enhanced. A new vision for entrepreneurship education, implemented by State and local initiatives, deserves the attention and support of all leaders and practitioners in American education.



T.H. Bell
Secretary of Education

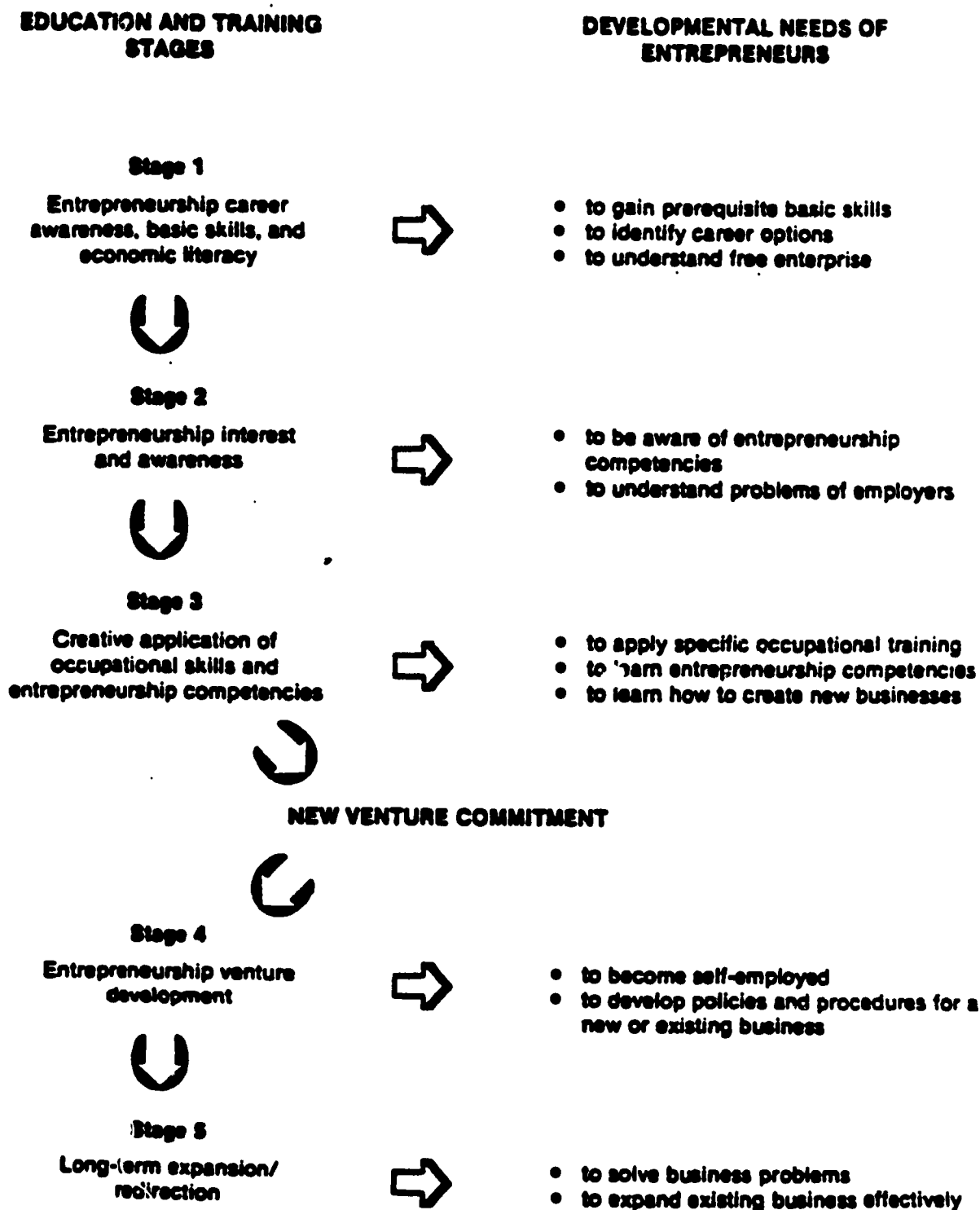


Robert M. Worthington
Assistant Secretary for
Vocational and Adult Education

SEP 29 1983

A FRAMEWORK FOR LIFE-LONG ENTREPRENEURSHIP EDUCATION: THE MODEL

Figure 1



UNIVERSITY OF PITTSBURGH
VOCATIONAL EDUCATION PROGRAM
ENTREPRENEURSHIP COMPETENCY SURVEY

APPENDIX 3

The Vocational Program you teach is: All AVTS Programs - 590 Responses.

Circle years of related work experience: 1-4, 5-9, 10-14, 15-19, 20 or More.
(65) (130) (108) (85) (166)
No. Responses 36

Please respond to each item with a check mark under the appropriate space with a YES or NO.

IN YOUR OPINION
ARE THESE COMPETENCIES
IMPORTANT TO TEACH?

ARE THESE COMPETENCIES
INCLUDED IN YOUR
CURRICULUM?

YES	NO		YES	NO
		How To:		
508	82	1. Understand the Nature of Small Business	243	347
445	145	2. Determine Your Potential as an Entrepreneur	136	454
432	158	3. Develop the Business Plan	125	465
487	103	4. Obtain Technical Assistance	187	403
420	170	5. Choose the Type of Ownership	146	444
416	174	6. Plan the Market Strategy	113	477
432	158	7. Locate the Business	151	439
452	138	8. Finance the Business	116	474
440	150	9. Deal with Legal Issues	153	437
504	86	10. Comply with Government Regulations	235	355
497	93	11. Manage the Business	207	383
467	123	12. Manage Human Resources	202	388
468	122	13. Promote the Business	182	408
426	164	14. Manage Sales Efforts	142	448
499	91	15. Keep the Business Records	229	361
476	114	16. Manage the Finances	171	419
429	161	17. Manage Customer Credit and Collection	121	469
451	139	18. Protect the Business	122	468
8,249	2,371		2,981	7,639
77.7%	22.3%		28.1%	71.9%

ENTREPRENEURSHIP COMPETENCY SURVEY

Page 2

YES NO

- 446 144 19. With appropriate curriculum materials would you be willing to include entrepreneurship instruction as an integral part of your program?
- 286 304 20. Do you ever get requests from students for information on how to start a small business in your program area?
- 367 223 21. Do you now, or have you in the past, owned or operated a business?

Please answer by circling the appropriate response.

1. How many years of teaching experience do you have?

67	70	102	99	250	2
1-3	4-6	7-10	11-14	15 or more	No Responses
11.4%	11.9%	17.3%	16.8%	42.4%	.3%

2. How many hours per week of entrepreneurship instruction would you include in your curriculum?

1	2	3	4	5 or more	No Responses
(254)	(130)	(60)	(23)	(43)	(80)
43.1%	22.0%	10.2%	3.9%	7.3%	13.6%

Please answer these questions in a brief paragraph.

1. If you are currently teaching part or all of an entrepreneurship program, briefly describe some of the experiences you have had.
2. Do you have any comments regarding entrepreneurship instruction that would be helpful to other teachers?

RETURN COMPLETED SURVEY TO YOUR SCHOOL OFFICE FOR MAILING TO:

Dr. Frank Palmieri
University of Pittsburgh
4K57 Forbes Quadrangle
Pittsburgh, PA 15260

UNIVERSITY OF PITTSBURGH
VOCATIONAL EDUCATION PROGRAM

APPENDIX 4

ENTREPRENEURSHIP COMPETENCY SURVEY

Type of Business: Totals All Businesses, 60 Responses

Please respond to each item with a check mark under the appropriate space.

IN YOUR OPINION ARE THESE COMPETENCIES IMPORTANT TO TEACH?

YES NO

50	10	1. Understanding the Nature of Small Business
49	11	2. Determining Your Potential as an Entrepreneur
54	6	3. Developing the Business Plan
49	11	4. Obtaining Technical Assistance
50	10	5. Choosing the Type of Ownership
49	11	6. Planning the Market Strategy
56	4	7. Locating the Business
55	5	8. Financing the Business
48	12	9. Dealing with Legal Issues
54	6	10. Complying With Government Regulations
58	2	11. Managing the Business
45	15	12. Managing Human Resources
54	6	13. Promoting the Business
54	6	14. Managing Sales Efforts
54	6	15. Keeping the Business Records
57	3	16. Managing the Finances
56	4	17. Managing Customer Credit and Collections
56	4	18. Protecting the Business

--- ---
948 132

87.8% 12.2%

UNIVERSITY OF PITTSBURGH
VOCATIONAL EDUCATION PROGRAM

APPENDIX 5

ENTREPRENEURSHIP COMPETENCY SURVEY

The Vocational Program you teach is: Agriculture/Horticulture

Circle years of related work experience: 1-4, 5-9, 10-14, 15-19, 20 or More.

Please respond to each item with a check mark under the appropriate space.

IN YOUR OPINION
ARE THESE COMPETENCIES
IMPORTANT TO TEACH?

ARE THESE COMPETENCIES
INCLUDED IN YOUR
CURRICULUM?

YES	NO			YES	NO
		How to:			
18	2	1. Understand the Nature of Small Business		14	16
16	4	2. Determine Your Potential as an Entrepreneur		6	14
16	4	3. Develop the Business Plan		9	11
19	1	4. Obtain Technical Assistance		11	9
16	4	5. Choose the Type of Ownership		11	9
16	4	6. Plan the Market Strategy		11	9
19	1	7. Locate the Business		10	10
17	3	8. Finance the Business		7	13
17	3	9. Deal with Legal Issues		7	13
17	3	10. Comply with Government Regulations		10	10
18	2	11. Manage the Business		15	5
19	1	12. Manage Human Resources		14	6
16	4	13. Promote the Business		11	9
16	4	14. Manage Sales Effrts		10	10
19	1	15. Keep the Business Records		14	16
18	2	16. Manage the Finances		11	9
17	3	17. Manage Customer Credit and Collection		6	14
14	6	18. Protect the Business		3	17
308	52			180	180
85.5%	14.5%			50%	50%

HEATING
AIR CONDITIONING
SHEET METAL
CHEMICAL TECH

UNIVERSITY OF PITTSBURGH
VOCATIONAL EDUCATION PROGRAM
ENTREPRENEURSHIP COMPETENCY SURVEY

APPENDIX 6

The Vocational Program you teach is: Air Conditioning/Environmental Related

Circle years of related work experience: 1-4, 5-9, 10-14, 15-19, 20 or More.

Please respond to each item with a check mark under the appropriate space.

IN YOUR OPINION
ARE THESE COMPETENCIES
IMPORTANT TO TEACH?

ARE THESE COMPETENCIES
INCLUDED IN YOUR
CURRICULUM?

YES NO

YES NO

How To:

10	4	1. Understand the Nature of Small Business	5	9
6	8	2. Determine Your Potential as an Entrepreneur	2	12
10	4	3. Develop the Business Plan	5	9
13	1	4. Obtain Technical Assistance	7	7
8	6	5. Choose the Type of Ownership	0	14
7	7	6. Plan the Market Strategy	2	12
6	8	7. Locate the Business	2	12
10	4	8. Finance the Business	2	12
11	3	9. Deal with Legal Issues	2	12
11	3	10. Comply with Government Regulations	4	10
9	5	11. Manage the Business	3	11
11	3	12. Manage Human Resources	6	8
11	3	13. Promote the Business	6	8
8	6	14. Manage Sales Efforts	3	11
10	4	15. Keep the Business Records	4	10
7	7	16. Manage the Finances	5	9
6	8	17. Manage Customer Credit and Collection	2	12
7	7	18. Protect the Business	1	13

159 93
63.1% 36.9%

61 191
24.2% 76.8%

UNIVERSITY OF PITTSBURGH
VOCATIONAL EDUCATION PROGRAM

APPENDIX 7

ENTREPRENEURSHIP COMPETENCY SURVEY

The Vocational Program you teach is: Appliance Repairs

Circle years of related work experience: 1-4, 5-9, 10-14, 15-19, 20 or More.

Please respond to each item with a check mark under the appropriate space with a YES or NO.

IN YOUR OPINION
ARE THESE COMPETENCIES
IMPORTANT TO TEACH?

ARE THESE COMPETENCIES
INCLUDED IN YOUR
CURRICULUM?

YES	NO		YES	NO
		How To:		
4	0	1. Understand the Nature of Small Business	4	0
3	1	2. Determine Your Potential as an Entrepreneur	2	2
3	1	3. Develop the Business Plan	4	0
3	1	4. Obtain Technical Assistance	4	0
3	1	5. Choose the Type of Ownership	0	4
3	1	6. Plan the Market Strategy	2	2
3	1	7. Locate the Business	1	3
3	1	8. Finance the Business	1	3
3	1	9. Deal with Legal Issues	1	3
3	1	10. Comply with Government Regulations	2	2
3	1	11. Manage the Business	3	1
3	1	12. Manage Human Resource	3	1
4	0	13. Promote the Business	4	0
3	1	14. Manage Sales Efforts	2	2
4	0	15. Keep the Business Records	2	2
4	0	16. Manage the Finances	4	0
3	1	17. Manage Customer Credit and Collection	1	3
4	0	18. Protect the Business	1	3
<u>59</u>	<u>13</u>		<u>41</u>	<u>31</u>
81.9%	18.0%		56.9%	43.0%

AUTO BODY
 AUTO MECHANIC
 DIESEL MECHANIC
 HEAVY EQUIPMENT
 MINE EQUIPMENT
 SMALL ENGINE REPAIR

UNIVERSITY OF PITTSBURGH
 VOCATIONAL EDUCATION PROGRAM
 ENTREPRENEURSHIP COMPETENCY SURVEY

APPENDIX 8

The Vocational Program you teach is: Automotive/Heavy Equipment Related

Circle years of related work experience: 1-4, 5-9, 10-14, 15-19, 20 or More.

Please respond to each item with a check mark under the appropriate space with YES or NO.

IN YOUR OPINION
 ARE THESE COMPETENCIES
 IMPORTANT TO TEACH?

ARE THESE COMPETENCIES
 INCLUDED IN YOUR
 CURRICULUM?

YES	NO		YES	NO
		How To:		
64	7	1. Understand the Nature of Small Business	23	48
57	14	2. Determine Your Potential as an Entrepreneur	17	54
51	20	3. Develop the Business Plan	11	60
61	10	4. Obtain Technical Assistance	21	50
50	21	5. Choose the Type of Ownership	12	59
41	30	6. Plan the Market Strategy	13	58
45	26	7. Locate the Business	16	55
48	23	8. Finance the Business	8	63
45	25	9. Deal with Legal Issues	18	53
53	18	10. Comply with Government Regulations	33	38
51	20	11. Manage the Business	25	46
42	29	12. Manage Human Resources	18	53
48	23	13. Promote the Business	22	49
44	27	14. Manages Sales Efforts	18	53
49	22	15. Keep the Business Records	26	45
48	23	16. Manage the Finances	15	56
42	29	17. Manage Customer Credit and Collection	7	64
48	23	18. Protect the Business	17	56
887	391		320	958
69.8%	30.7%		25.0%	74.9%

APPENDIX 9

BUILDING CONST.
CABINET/CARP
CIVIL TECHNOLOGY
DRAFTING
MASONRY

UNIVERSITY OF PITTSBURGH
VOCATIONAL EDUCATION PROGRAM
ENTREPRENEURSHIP COMPETENCY SURVEY

ELECTRICITY
PAINTING/DECO
INTERIOR DESIGN/DECO
PLUMBING

The Vocational Program you teach is: Building/Construction Trades Related
Circle years of related work experience: 1-4, 5-9, 10-14, 15-19, 20 or More.

Please respond to each item with a check mark under the appropriate space.

IN YOUR OPINION
ARE THESE COMPETENCIES
IMPORTANT TO TEACH?

ARE THESE COMPETENCIES
INCLUDED IN YOUR
CURRICULUM?

YES	NO		YES	NO
		How To:		
106	18	1. Understand the Nature of Small Business	39	85
84	40	2. Determine Your Potential as an Entrepreneur	24	100
83	41	3. Develop the Business Plan	19	105
88	36	4. Obtain Technical Assistance	36	88
69	55	5. Choose the Type of Ownership	18	106
71	53	6. Plan the Market Strategy	11	113
77	47	7. Locate the Business	21	103
82	42	8. Finance the Business	19	105
75	49	9. Deal with Legal Issues	25	99
94	30	10. Comply with Government Regulations	36	88
90	34	11. Manage the Business	22	102
88	36	12. Manage Human Resources	31	93
82	42	13. Promote the Business	22	102
69	55	14. Manage Sales Efforts	13	111
75	49	15. Keep the Business Records	24	100
82	42	16. Manage the Finances	24	100
75	49	17. Manage Customer Credit and Collection	10	105
78	46	18. Protect the Business	22	102
1,468	764		425	1807
65.7%	34.3%		19.0%	81.0%

ACCOUNTING
BUSINESS EDUCATION
COMPUTER MAINTENANCE
COMPUTER PROGRAMMING
COMPUTER SCIENCE
COMPUTER TECH
DATA PROCESSING

UNIVERSITY OF PITTSBURGH
VOCATIONAL EDUCATION PROGRAM

APPENDIX 10

ENTREPRENEURSHIP COMPETENCY SURVEY

The Vocational Program you teach is: Business Education/Computer Related

Circle years of related work experience: 1-4, 5-9, 10-14, 15-19, 20 or More.

Please respond to each item with a check mark under the appropriate space.

IN YOUR OPINION
ARE THESE COMPETENCIES
IMPORTANT TO TEACH.

ARE THESE COMPETENCIES
INCLUDED IN YOUR
CURRICULUM?

YES	NO		YES	NO
		How To:		
69	10	1. Understand the Nature of Small Business	38	41
63	16	2. Determine Your Potential as an Entrepreneur	19	60
57	22	3. Develop the Business Plan	12	67
66	13	4. Obtain Technical Assistance	24	55
64	15	5. Choose the Type of Ownership	39	40
60	19	6. Plan the Market Strategy	14	65
60	19	7. Locate the Business	14	65
65	14	8. Finance the Business	16	63
67	12	9. Deal with Legal Issue	24	55
69	10	10. Comply with Government Regulations	24	55
71	8	11. Manage the Business	30	49
69	10	12. Manage Human Resources	23	56
67	12	13. Promote the Business	21	58
66	13	14. Manage Sales Efforts	20	59
77	2	15. Keep the Business Records	52	27
75	4	16. Manage the Finances	37	42
69	10	17. Manage Customer Credit and Collection	31	48
63	16	18. Protect the Business	18	61
1,197	225		456	966
84.2%	15.8%		32.1%	67.9%

COMMERCIAL ART
COMMERCIAL PHOTO
FASHION DESIGN
GRAPHIC ART

UNIVERSITY OF PITTSBURGH
VOCATIONAL EDUCATION PROGRAM

APPENDIX 11
MASS MEDIA PRODUCTION
PRINTING

ENTREPRENEURSHIP COMPETENCY SURVEY

The Vocational Program you teach is: Creative and Graphic Arts/Design Related.

Circle years of related work experience: 1-4, 5-9, 10-14, 15-19, 20 or More.

Please respond to each item with a check mark under the appropriate space.

IN YOUR OPINION
ARE THESE COMPETENCIES
IMPORTANT TO TEACH?

ARE THESE COMPETENCIES
INCLUDED IN YOUR
CURRICULUM?

YES	NO			YES	NO
		How to:			
26	5	1. Understand the Nature of Small Business		11	20
19	12	2. Determine Your Potential as an Entrepreneur		4	27
22	9	3. Develop the Business Plan		4	27
24	7	4. Obtain Technical Assistance		6	25
20	11	5. Choose the Type of Ownership		3	28
19	12	6. Plan the Market Strategy		4	27
19	12	7. Locate the Business		9	22
23	8	8. Finance the Business		8	23
22	9	9. Deal with Legal Issues		9	22
27	4	10. Comply with Government Regulations		12	19
24	7	11. Manage the Business		7	24
21	10	12. Manage Human Resources		10	21
24	7	13. Promote the Business		10	21
22	9	14. Manage Sales Efforts		2	29
26	5	15. Keep the Business Records		9	22
25	6	16. Manage the Finances		4	27
22	9	17. Manage Customer Credit and Collection		0	31
22	9	18. Protect the Business		1	30
407	151			110	448
72.9%	27.1%			19.7%	80.3%

UNIVERSITY OF PITTSBURGH
VOCATIONAL EDUCATION PROGRAM

APPENDIX 12

ENTREPRENEURSHIP COMPETENCY SURVEY

The Vocational Program you teach is: Cosmetology.

Circle years of related work experience: 1-4, 5-9, 10-14, 15-19, 20 or More.

Please respond to each item with a check mark under the appropriate space with a YES or NO.

IN YOUR OPINION
ARE THESE COMPETENCIES
IMPORTANT TO TEACH?

ARE THESE COMPETENCIES
INCLUDED IN YOUR
CURRICULUM?

YES NO

YES NO

How to:

50	1	1. Understand the Nature of Small Business	37	14
45	6	2. Determine Your Potential as an Entrepreneur	28	23
48	3	3. Develop the Business Plan	31	20
49	2	4. Obtain Technical Assistance	33	18
49	2	5. Choose the Type of Ownership	41	10
45	6	6. Plan the Market Strategy	26	25
49	2	7. Locate the Business	41	10
46	5	8. Finance the Business	30	21
45	6	9. Deal with Legal Issue	30	21
50	1	10. Comply with Government Regulations	44	7
49	2	11. Manage the Business	44	7
47	4	12. Manage Human Resources	40	11
49	2	13. Promote the Business	42	9
46	5	14. Manage Sales Efforts	34	17
50	1	15. Keep the Business Records	50	1
49	2	16. Manage the Finances	43	8
38	13	17. Manage Customer Credit and Collection	31	20
45	6	18. Protect the Business	31	20
<hr/>			<hr/>	
849	69		656	262
92.5%	7.5%		71.5%	28.5%

UNIVERSITY OF PITTSBURGH
VOCATIONAL EDUCATION PROGRAM

APPENDIX 13

ENTREPRENEURSHIP COMPETENCY SURVEY

The Vocational Program you teach is: Electronics

Circle years of related work experienced: 1-4, 5-9, 10-14, 15-19, 20 or More.

Please respond to each item with a check mark under the appropriate space with a YES or NO.

IN YOUR OPINION
ARE THESE COMPETENCIES
IMPORTANT TO TEACH?

ARE THESE COMPETENCIES
INCLUDED IN YOUR
CURRICULUM?

YES	NO		YES	NO
		How To:		
18	4	1. Understand the Nature of Small Business	10	12
17	5	2. Determine Your Potential as an Entrepreneur	4	18
16	6	3. Develop the Business Plan	3	19
19	3	4. Obtain Technical Assistance	7	15
16	6	5. Choose the Type of Ownership	3	19
17	5	6. Plan the Market Strategy	2	20
17	5	7. Locate the Business	6	16
17	5	8. Finance the Business	4	18
18	4	9. Deal with Legal Issues	4	18
20	2	10. Comply with Government Regulations	8	14
18	4	11. Manage the Business	3	19
18	4	12. Manage Human Resources	4	18
18	4	13. Promote the Business	4	18
17	5	14. Manage Sales Efforts	3	19
18	4	15. Keep the Business Records	3	19
17	5	16. Manage the Finances	2	20
17	5	17. Manage Customer Credit and Collection	1	21
17	5	18. Protect the Business	3	19
315	81		74	322
79.5%	20.5%		18.7%	81.3%

ENTREPRENEURSHIP COMPETENCY SURVEY

The Vocational Program you teach is: Food Preparation/Service

Circle years of related work experience: 1-4, 5-9, 10-14, 15-19, 20 or More.

Please respond to each item with a check mark under the appropriate space.

IN YOUR OPINION
ARE THESE COMPETENCIES
IMPORTANT TO TEACH?

ARE THESE COMPETENCIES
INCLUDED IN YOUR
CURRICULUM?

YES	NO		YES	NO
		How To:		
30	5	1. Understand the Nature of Small Business	19	16
28	7	2. Determine Your Potential as an Entrepreneur	11	24
30	5	3. Develop the Business Plan	10	25
28	7	4. Obtain Technical Assistance	7	28
26	9	5. Choose the Type of Ownership	9	26
31	4	6. Plan the Market Strategy	7	28
26	9	7. Locate the Business	8	27
28	7	8. Finance the Business	4	31
29	6	9. Deal with Legal Issues	4	31
33	2	10. Comply with Government Regulations	6	19
33	2	11. Manage the Business	16	19
30	5	12. Manage Human Resources	7	18
33	2	13. Promote the Business	13	22
30	5	14. Manage Sales Efforts	12	23
39	1	15. Keep the Business Records	16	19
32	3	16. Manage the Finances	8	27
28	7	17. Manage Customer Credit and Collection	8	27
30	5	18. Protect the Business	3	32
539	91		188	442
85.5%	14.5%		29.8%	70.2%

ENTREPRENEURSHIP COMPETENCY SURVEY

The Vocational Program you teach is: Health Related Occupations

Circle years of related work experience: 1-4, 5-9, 10-14, 15-19, 20 or More.

Please respond to each item with a check mark under the appropriate space.

IN YOUR OPINION
ARE THESE COMPETENCIES
IMPORTANT TO TEACH?

ARE THESE COMPETENCIES
INCLUDED IN YOUR
CURRICULUM?

YES	NO		YES	NO
		How To:		
25	9	1. Understand the Nature of Small Business	11	23
23	11	2. Determine Your Potential as an Entrepreneur	3	31
21	13	3. Develop the Business Plan	5	29
24	10	4. Obtain Technical Assistance	8	26
22	12	5. Choose the Type of Ownership	5	29
21	13	6. Plan the Market Strategy	5	29
23	11	7. Locate the Business	10	24
22	12	8. Finance the Business	8	26
28	6	9. Deal with Legal Issues	11	23
31	3	10. Comply with Government Regulations	13	21
27	7	11. Manage the Business	6	22
27	7	12. Manage Human Resources	11	23
25	9	13. Promote the Business	9	25
24	10	14. Manage Sales Efforts	3	31
30	4	15. Keep the Business Records	10	24
27	7	16. Manage the Finances	5	29
25	9	17. Manage Customer Credit and Collection	1	33
26	8	18. Protect the Business	3	31
<hr/>			<hr/>	
451	161		127	485
73.6%	26.4%		20.7%	79.3

APPENDIX 16

AUTOMATED MACH TECH UNIVERSITY OF PITTSBURGH
 MAINTGENERAL INDUSTRIAL VOCATIONAL EDUCATION PROGRAM
 INDUSTRIAL MACH TRADES
 INDUSTRIAL PROD MGT ENTREPRENEURSHIP COMPETENCY SURVEY

INDUSTRIAL
 MACHINE SHOP
 TOOL AND DIE

The Vocational Program you teach is: Machine Shop/Tool and Die Related

Circle years of related work experience: 1-4, 5-9, 10-14, 15-19, 20 or More.
 Please respond to each item with a check mark under the appropriate space.

IN YOUR OPINION
 ARE THESE COMPETENCIES
 IMPORTANT TO TEACH?

ARE THESE COMPETENCIES
 INCLUDED IN YOUR
 CURRICULUM?

YES	NO		YES	NO
		How To:		
18	6	1. Understand the Nature of Small Business	7	17
17	7	2. Determine Your Potential as an Entrepreneur	5	19
14	10	3. Develop the Business Plan	4	20
21	3	4. Obtain Technical Assistance	7	17
16	8	5. Choose the Type of Ownership	3	21
13	11	6. Plan the Market Strategy	2	22
14	10	7. Locate the Business	4	20
18	6	8. Finance the Business	4	20
15	9	9. Deal with Legal Issues	4	20
16	8	10. Comply with Government Regulations	4	20
18	6	11. Manage the Business	4	20
18	6	12. Manage Human Resources	4	20
16	8	13. Promote the Business	3	21
14	10	14. Manage Sales Efforts	0	24
15	9	15. Keep the Business Records	1	23
15	9	16. Manage the Finances	0	24
12	12	17. Manage Customer Credit and Collection	0	24
18	6	18. Protect the Business	1	23
290	142		57	375
67.2%	32.8%		13.2%	86.8%

CLOTHING FABRICATION
DIVERSIFIED OCCUP
MARKETING & DIST
TEXTILES
WAREHOUSING

UNIVERSITY OF PITTSBURGH
VOCATIONAL EDUCATION PROGRAM
ENTREPRENEURSHIP COMPETENCY SURVEY

APPENDIX 17

The Vocational Program you teach is: Marketing and Distribution Related

Circle years of related work experience: 1-4, 5-9, 10-14, 15-19, 20 or More.

Please respond to each item with a check mark under the appropriate space.

IN YOUR OPINION
ARE THESE COMPETENCIES
IMPORTANT TO TEACH

ARE THESE COMPETENCIES
INCLUDED IN YOUR
CURRICULUM?

YES	NO		YES	NO
		How To:		
40	3	1. Understand the Nature of Small Business	25	8
41	2	2. Determine Your Potential as an Entrepreneur	23	20
36	7	3. Develop the Business Plan	22	21
38	5	4. Obtain Technical Assistance	18	25
40	3	5. Choose the Type of Ownership	27	16
40	3	6. Plan the Market Strategy	24	19
40	3	7. Locate the Business	27	16
41	2	8. Finance the Business	22	21
35	8	9. Deal with Legal Issues	17	26
40	3	10. Comply with Government Regulations	6	17
41	2	11. Manage the Business	30	13
41	2	12. Manage Human Resources	28	15
41	2	13. Promote the Business	31	17
36	7	14. Manage Sales Efforts	28	15
41	2	15. Keep the Business Records	27	16
40	3	16. Manage the Finances	28	15
40	3	17. Manage Customer Credit and Collection	25	18
41	2	18. Protect the Business	20	23
712	62		458	316
91.1%	8.1%		59.1%	40.8%

UNIVERSITY OF PITTSBURGH
VOCATIONAL EDUCATION PROGRAM

APPENDIX 18

ENTREPRENEURSHIP COMPETENCY SURVEY

The Vocational Program you teach is: Welding

Circle years of related work experience: 1-4, 5-9, 10-14, 15-19, 20 or More.

Please respond to each item with a check mark under the appropriate space.

IN YOUR OPINION
ARE THESE COMPETENCIES
IMPORTANT TO TEACH?

ARE THESE COMPETENCIES
INCLUDED IN YOUR
CURRICULUM?

YES	NO		YES	NO
		How To:		
17	5	1. Understand the Nature of Small Business	6	16
14	8	2. Determine Your Potential as an Entrepreneur	2	20
15	7	3. Develop the Business Plan	3	19
15	7	4. Obtain Technical Assistance	4	18
14	8	5. Choose the Type of Ownership	2	20
15	7	6. Plan the Market Strategy	2	20
14	8	7. Locate the Business	1	21
15		8. Finance the Business	2	20
15	7	9. Deal with Legal Issues	2	20
16	6	10. Comply with Government Regulations	3	19
16	6	11. Manage the Business	3	19
17	5	12. Manage Human Resources	2	20
16	6	13. Promote the Business	3	19
16	6	14. Manage Sales Efforts	2	20
17	5	15. Keep the Business Records	1	21
16	6	16. Manage the Finances	1	21
16	6	17. Manage Customer Credit and Collection	2	20
16	6	18. Protect the Business	1	21
280	116		42	354
70.7%	29.3%		10.6%	89.4%

CURRICULAR RESOURCES FOR ENTREPRENEURSHIP

**PACE (REVISED) - Program for Acquiring Competence in Entrepreneurship, 1983,
National Center for Research in Vocational Education, The Ohio State
University, 1960 Kenny Road, Columbus, Ohio 43120**

**Beyond a Dream - An instructor's guide for Small Business Exploration, 1985.
Judy Balough, M., Catherine Ashmore, Novella Ross and others. National
Center for Research in Vocational Education, The Ohio State University,
1960, Kenny Road, Columbus, Ohio 43210**

**How to Set Up Your Own Small Business, Volumes I and II, American Institute
of Small Business, 7515 Washington Blvd., Minneapolis, Minn 55426**

**Entrepreneurship Education, Learning the Skills, Supplemental Readings,
Applying the Skills, Illinois State Board of Education, 100 N. First
Street, Springfield, Illinois 62777**

**Entrepreneurship: A New Direction for Education, The Center for Vocational
Personnel Preparation, Indiana University of Pennsylvania, Indiana, PA,
1987**

**Getting Down to Business, Modules, Entrepreneurship Training Components,
ETC, American Institutes for Research, May, 1981**

BOOKS

- Baumbach, Clifford, M. How to Organize and Operate a Small Business, Prentice Hall, 7th Edition.
- Davis, Edward L. and Zelinko, Margaret (1982). Entrepreneurship in Voc. Ed.: A Guide for Program Planning, Columbus, Ohio, The National Center for Research in Vocational Education.
- Coffee, Robert and Scase, Richard (1985). Women in Charge, George Allen & Unwin (Publishers) Ltd., 1985.
- Eliason, Carol (1981). Entrepreneurship for Women, An Unfilled Agenda, Columbus Ohio, The National Center for Research in Vocational Education.
- Hisrich, Robert D., and Brush, Candida, G. (1986). The Woman Entrepreneur, J. D. Heath Company.
- Hanson, Garth A. (1984). Entrepreneurship: A Career Alternative, Columbus, Ohio, The National Center for Research in Vocational Education.
- Heath, Betty, and Camp, William G. (1984). Microcomputers in Small Business Management, Columbus, Ohio, The National Center for Research in Vocational Education.
- Kent, Calvin, A., Sexton, Donald L., Vesper, Karl H. (1982). Encyclopedia of Entrepreneurship, Inglewood Cliffs, New Jersey, Prentice Hall.
- Kilby, Peter (1971). Entrepreneurship and Economic Development, New York Press.
- Ross, Novella, Ashmore, M. Catherine, Baker, Phyllis, Bebris, John, Fischer, Lisa, Littman, Michael, Williams Sarah (1984). A National Entrepreneurship Education Agenda for Action, Columbus, Ohio, The National Center for Research in Vocational Education.
- Sloan, John (1984). The Present and Future Contributions of American Small Business, San Mateo, CA, National Federation of Independent Business.
- Smith, Geoffrey, N., and Brown, Paul B. (1986). New York, Sweet Equality, Simon and Schuster.
- Taffi, Donald (1981). The Entrepreneur and Corporate Strategy For the 1980's, New York, Simon and Schuster.
- Tate, Curtis, E., Jr. (1978). Successful Small Business Management, Dallas, Texas, Business Publications.
- Watkins, Wesley W. (1960). The Entrepreneurs of Entrepreneurship, Columbus, Ohio, The National Center for Research in Vocational Education.

Small Business Success, Over 100 proven techniques to help your business grow (1978). Inc., Boston, MA, Inc. Publishing Company.

Your Business and the SBA. U.S. Small Business Administration, September, 1986, OPC2.

Business Loans from the SBA. U.S. Small Business Administration, September, 1986, OPC-6.